CENTER FOR HEALTH STATISTICS

DATA SUMMARY

REPORT REGISTER NO. DS99-06001
(June 1999)

CHRONIC LIVER DISEASE & CIRRHOSIS DEATHS CALIFORNIA, 1980-1997

Introduction

This report presents chronic liver disease and cirrhosis death data in California for the years 1980 through 1997. Also included in this report are trend analyses and data comparisons by sex, age, race/ethnicity, and county.

Chronic liver disease and cirrhosis is a cause of death primarily attributed to excessive alcohol consumption. Nearly 14 million Americans, 1 in every 13 adults, abuse alcohol or are alcoholic[1]. More than two million Americans suffer from alcohol-related liver disease, with 10 to 20 percent of heavy drinkers developing alcoholic cirrhosis, or scarring of the liver[2].

In 1997, chronic liver disease and cirrhosis was the tenth leading cause of death in the United States[3] causing 24,765 deaths, and the eighth leading cause of death in California[4] causing 3,502 deaths. Due to the prevalence of alcohol-related morbidity and mortality associated with this disease, the United States Public Health Service has established a number of health objectives for chronic liver disease and cirrhosis, which are published in *Healthy People 2000 Review 1997*[5]. All deaths attributed to chronic liver disease and cirrhosis (whether or not they are specified as alcohol-related) are tracked as objective 4.2. This objective references an age-adjusted target rate of no more than 6.0 deaths due to chronic liver disease and cirrhosis per 100,000 population. In addition to the age-adjusted rate of 6.0 for the total population, target rates have been established for Black males at 12.0, and for all Hispanics at 10.0 per 100,000 population. For further information on chronic liver disease and cirrhosis, the reader is referred to resources prepared by the Office of Applied Research and Analysis of the Department of Alcohol and Drug Programs at (916) 322-2285.

Chronic Liver Disease and Cirrhosis Deaths, Crude and Age-Adjusted Death Rates by Sex, 1980-1997

As shown in **Table 1** (page 8), the number of deaths due to chronic liver disease and cirrhosis decreased significantly from a high of 4,477 deaths in 1980 to a low of 3,502 in 1997, a decline of 21.8 percent. The fewest number of deaths (3,501) occurred in 1996. Likewise, there was a significant decline in the number of deaths for both males and females. For males, the number of deaths declined 20.8 percent from a high of 2,909 in 1980 to a low of 2,304 in 1997. From 1980 to 1997 the number of deaths for females decreased 23.6 percent from 1,568 to 1,198. The lowest number of deaths for females (1,177) occurred in 1996. Throughout the 18-year period, the number of chronic liver disease and cirrhosis deaths for males was almost twice the number of deaths for females.

California's crude rate due to chronic liver disease and cirrhosis decreased from 18.8 deaths per 100,000 population in 1980 to 10.6 in 1997, a 43.6 percent decline that was found by regression analysis to be significant. For males, the crude rate declined 43.9 percent, from 24.8 in 1980 to 13.9 in 1997. For females, the rate declined 43.8 percent from 13.0 in 1980 to 7.3 in 1996 and 1997. The declines in crude rates for the 18-year period were statistically significant for both sexes.

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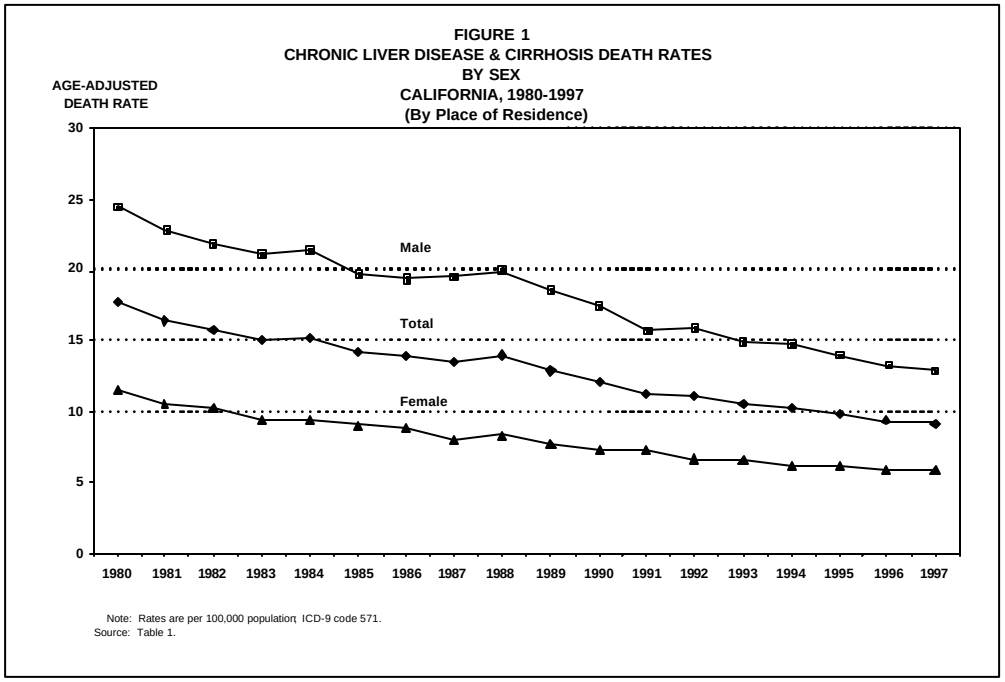
Figure 1 shows age-adjusted death rates due to chronic liver disease and cirrhosis from 1980 to 1997, which show a similar pattern to the crude death rates noted on **Table 1**. The chronic liver disease and cirrhosis age-adjusted rates declined from a high of 17.7 per 100,000 in 1980 to a low of 9.2 in 1997. The male age-adjusted rate declined from a high of 24.5 in 1980 to a low of 12.9 in 1997. Likewise, the female age-adjusted rate declined from a high of 11.6 in 1980 to a low of 5.8 in 1996 and 1997. The overall decline, as well as the decline in rates for both males and females, was found by regression analysis to be significant. The data also show that the male rate was more than twice the female age-adjusted rate throughout the 18 years of this study.



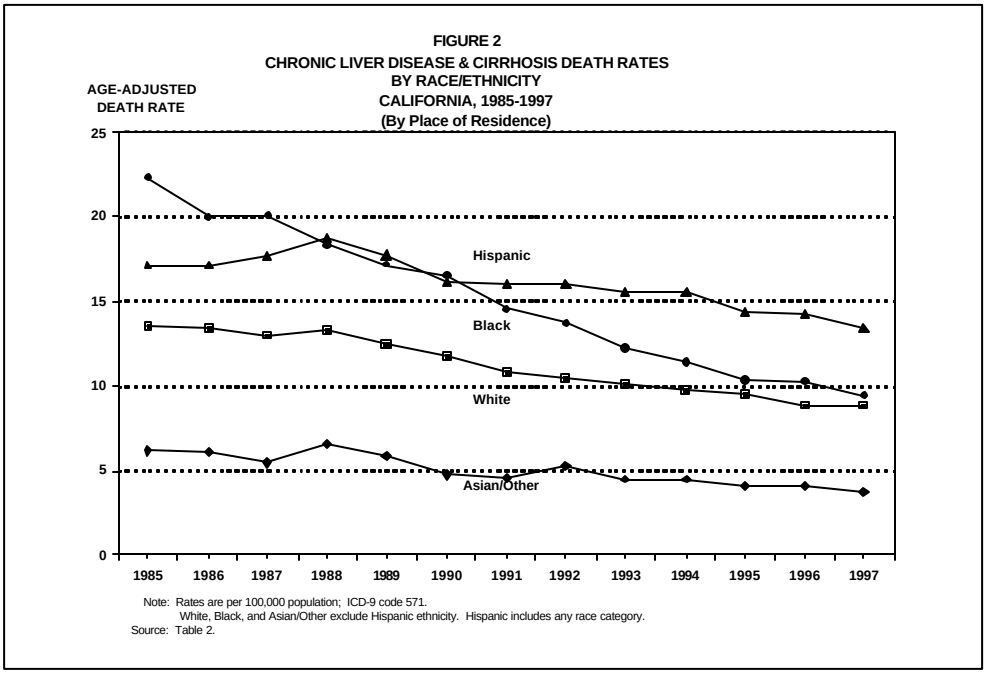
Chronic Liver Disease and Cirrhosis Deaths, Crude and Age-Adjusted Rates by Race/Ethnicity, 1985-1997

Table 2 (page 9) shows chronic liver disease and cirrhosis death data by the four major race/ethnic groups from 1985 through 1997. Throughout this 13-year period, the number of deaths among Whites was the highest of the four groups, followed by Hispanics, Blacks, and Asian/Other. Whites experienced their highest number of deaths (2,855) in 1988, Hispanics (954) in 1996, Blacks (371) in 1985, and Asian/Other (170) in 1992. The lowest number of deaths among Whites (2,162) and Blacks (213) occurred in 1996 and 1997 respectively, and the lowest number among Hispanics (665) and Asian/Other (120) occurred in 1985. The 1985-1997 data reveal that the number of deaths due to chronic liver disease and cirrhosis for Blacks and Whites decreased by 42.6 percent and 22.0 percent respectively. The number of deaths for Asian/Other increased 27.5 percent and the number of deaths for Hispanics increased 42.0 percent.

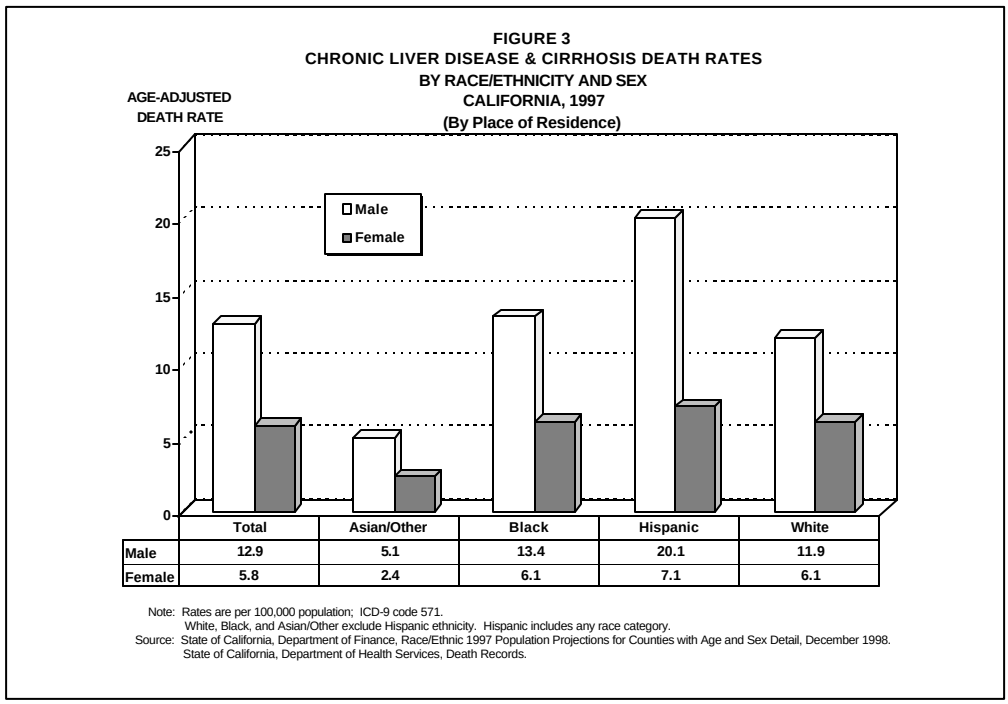
Over this 13-year period from 1985--1987, the crude death rates for Blacks, Hispanics, and Whites were up to three times higher than the rates for Asian/Other. The highest crude rate (19.3 per 100,000 population) occurred among Blacks in 1985, followed by Whites (17.3) in 1985, Hispanics (11.9) in 1988, and Asian/Other (6.1) in 1988. The lowest crude rate occurred among Asian/Other at 4.0 per 100,000 in 1997, followed by Blacks (9.3) in 1997, Hispanics (9.7) in 1997, and Whites (12.6) in 1996.

Regression analysis reveals that the decline in crude rates was significant for each race/ethnic group from 1985 to 1997.

Figure 2 shows the age-adjusted chronic liver disease and cirrhosis death rates for the four race/ethnic groups from 1985 to 1997. Blacks had the highest age-adjusted rate, 22.4 per 100,000 population in 1985, but their rate dropped significantly to 9.5 by 1997. This rate was close to the White rate and well below the Hispanic rate for the same year. Hispanics had a rate of 17.2 in 1985 and 1986, which rose to a high of 18.8 in 1988, before significantly dropping to their lowest rate of 13.5 in 1997. The White age-adjusted rate was 13.6 in 1985, then dropped significantly to their lowest rate of 8.9 in both 1996 and 1997. The Asian/Other age-adjusted rate was 6.2 in 1985, rose to 6.6 in 1988, and then dropped significantly to their lowest rate of 3.7 in 1997. The data from **Table 2** also shows that the Healthy People 2000 target age-adjusted death rate for Hispanics of 10.0 deaths per 100,000 population has not yet been met. Trend analysis reveals that this goal is unlikely to be met within the next five years.



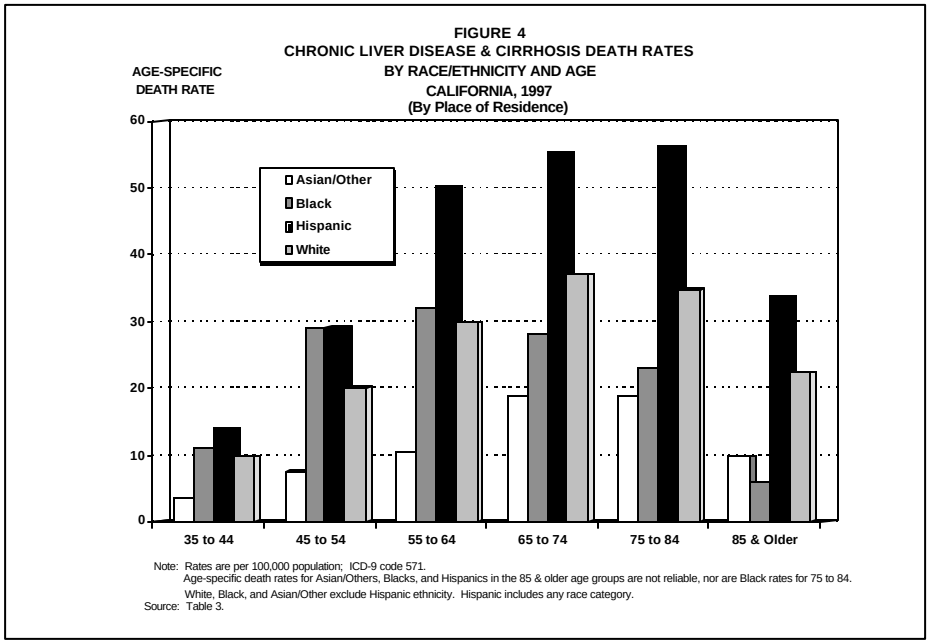
Age-Adjusted Chronic Liver Disease and Cirrhosis Death Rates by Race/Ethnicity and Sex, 1997



As shown in **Figure 3**, males had higher age-adjusted death rates than females in 1997, regardless of the race/ethnic group. The male age-adjusted death rates among Asian/Other, Blacks, Hispanics, and Whites, were at least twice the rates of their female counterparts. Of the age-adjusted death rates in 1997, Hispanic males had the highest rate (20.1 per 100,000 population). Their age-adjusted rate was significantly higher than the age-adjusted rates of Asian/Other males (5.1), Black males (13.4), and White males (11.9). Of the female age-adjusted death rates, Hispanic females had the highest rate (7.1), which was significantly higher than the female Asian/Other rate (2.4), but not significantly higher than the rates for Black females (6.1) or White females (6.1).

Age-Specific Chronic Liver Disease and Cirrhosis Death Rates by Race/Ethnicity and Sex, 1997

The age-specific death rates among the four race/ethnic groups for 1997 are shown in **Figure 4** and **Table 3** (page 10). The highest age-specific death rate (56.2 per 100,000 population) was found among Hispanics aged 75 to 84. In addition, Hispanics had the highest age-specific rates among all other race/ethnic groups after age 24. The lowest reliable age-specific death rate (1.9) was found among Whites aged 25 to 34. For all other age groups except 85 and older, Asian/Other had the lowest reliable age-specific rates. Whites had the only reliable rate (22.5 per 100,000 population) in the 85 and older age group. The lowest reliable rate for Blacks (11.1) was in the 35-44 age group, and the lowest reliable rate for Hispanics (2.0) was in the 25-34 age group.



Hispanics and Whites were the only race/ethnic groups with a sufficient number of deaths to calculate reliable age-specific rates by sex. Hispanic males aged 55-64 had the highest age-specific death rate in 1997 (79.5 per 100,000 population), 3.4 times greater than the rate of 23.1 for their female counterparts. Similar ratios for Hispanic males and females were seen in the 35 to 44 and 45 to 54 age groups, with ratios of 3.5 to 1 and 3.6 to 1 respectively. In addition, across the various age groups, male and female Hispanics generally had higher age-specific death rates than their male and female race/ethnic counterparts. The highest age-specific rate for White males (49.0) was in the 65 to 74 age group, which was 1.8 times greater than the rate (27.0) for females. Whites had the greatest male/female ratio in the 85 and older age group, with the rate for White males (39.2) being 2.5 times greater than for White females (15.8).

Chronic Liver Disease and Cirrhosis Deaths and Death Rates Among California Counties.

Table 4 (page 11) shows the 1995-1997 three-year average number of deaths and rates due to chronic liver disease and cirrhosis for residents of the 58 counties in California. Of the 58 counties, Los Angeles County had the highest number of deaths (1,035.0), followed by Orange County (248.3), and San Diego County (244.3).

Of the counties with reliable crude death rates due to chronic liver disease and cirrhosis, Imperial County had the highest crude death rate (15.3 per 100,000 population) and Ventura County had the lowest crude death rate (8.0). California's crude death rate due to chronic liver disease and cirrhosis was 10.9 per 100,000 population.

Of California's counties with reliable age-adjusted rates, none of them have yet met the Healthy People 2000 national health objective of no more than 6.0 deaths due to chronic liver disease and cirrhosis per 100,000 population. California as a whole has not yet met this objective with its overall rate of 9.5 per 100,000 population. The highest reliable age-adjusted rate was for Imperial County (15.3) and the lowest age-adjusted rate was for Ventura County (6.5). The second highest reliable age-adjusted rate was for Yolo County (14.1), and the third highest age-adjusted rate was for Tulare County (13.3).

TABLE 5
CHRONIC LIVER DISEASE & CIRRHOSIS DEATHS
AMONG LOCAL HEALTH JURISDICTIONS
CALIFORNIA, 1995-1997
(By Place of Residence)

Local Health Jurisdiction	Number of Deaths (Average)	1996 Population	Crude Death Rate
Berkeley	13.7	104,700	13.1*
Long Beach	47.3	437,900	10.8
Pasadena	15.7	137,200	11.4*

Note: Rates per 100,000 population; ICD-9 Code 571.
* Death rate unreliable, relative standard error is greater than or equal to 23%.

Source: State of California, Department of Finance, Report Hist E-4, 1996 Historical Estimates of California Cities and Counties, May 1999

Table 5 shows the 1995-1997 three-year average death numbers and rates due to chronic liver disease and cirrhosis for California's three local health jurisdictions, Berkeley had 13.7 deaths due to chronic liver disease, Long Beach had 47.3 deaths and Pasadena had 15.7 deaths. The crude death rates due to chronic liver disease and cirrhosis were 13.1 per 100,000 population in Berkeley, 10.8 in Long Beach and 11.4 in Pasadena. The numbers of deaths were too low in Berkeley and Pasadena to yield reliable rates.

Age-adjusted rates were not calculated for the local health jurisdictions because city population estimates by age are not available.

Technical Notes:

The chronic liver disease and cirrhosis death data presented in this report include ICD-9 code 571.

The term "significant" throughout this report indicates either statistically significant based on the slope of a least squares line not equal to zero ($p<.05$) for regression analysis, or statistically significant based on the difference between two independent rates ($p<.05$).

As with any vital statistics data, caution must be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. Consequently, **Tables 4 and 5** present three-year annual average death data to increase the reliability of the data by county and local health jurisdiction. To assist the reader, 95 percent confidence intervals were provided in the data tables as a tool for measuring the reliability of the death rates.Rates with a relative standard error (coefficient of variation) greater than or equal to 23% are considered unreliable and were marked with an asterisk ("*").

The four race/ethnic groups presented in the tables are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the "White" race/ethnic group includes: White, Other (specified), Not Stated, and Unknown; and the "Asian/Other" race/ethnic group includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Vietnamese, Other Pacific Islander, Samoan, Thai, and Laotian.

Race/ethnic data are not presented for years prior to 1985 due to the unavailability of mutually exclusive data for Hispanics and Whites. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other[6].

The method used to analyze vital statistics data is also important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates, on the other hand, show the actual risk of dying in a given population, but the age composition of that population is not taken into consideration. Therefore the use of age-adjusted rates becomes the preferred method for measuring death rates over time, and for comparing death rates between race/ethnic groups, sex, and geographic areas. The 1940 United States (standard million) population was used as the basis for age-adjusting in this report.

In addition , the population data used to calculate the crude rates in **Table 5** differ from the population data used to calculate the crude rates in **Table 4**. Consequently, caution should be exercised when comparing the crude rates among the three local health jurisdictions with the rates among the 58 California counties.

For a more complete explanation of the age-adjusting methodology see the *Healthy People 2000 Statistical Notes* publication[7]. Detailed information on data quality and limitations as well as the formulas used to calculate vital statistics rates are presented in the appendix of the annual report, *Vital Statistics of California*[8].
Another source of information is the Department of Health Services, Center for Health Statistics Home Page [www.dhs.ca.gov].

References:

1. Alcoholism, Getting the Facts. http://silk.nih.gov/silk/niaaa1/publication/booklet.htm

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4. Ficenec S. *Advance Report: California Vital Statistics, 1997*. Center for Health Statistics, California Department of Health Services, December 1998.

5. U.S. Department of Health and Human Services. *Healthy People 2000 Review 1997*. Hyattsville, Maryland: Public Health Service, DHHS Pub. No. (PHS) 98-1256, October 1997.

6. Hahn RA, Mulinare J, Teutsch SM. *Inconsistencies in Coding Race and Ethnicity Between Birth and Death in U.S. Infants.* The Journal of the American Medical Association, Vol. 267, No. 2 January 1992.

7. Curtin LR, Klein RJ. Direct Standardization (Age-Adjusted Death Rates). *Healthy People 2000 StatisticalNotes.* National Center for Health Statistics, DHHS Pub No. (PHS) 95-1237, March 1995; No. 6 Revised.

8. Riedmiller K, Harms C. *Vital Statistics of California, 1996*. Center for Health Statistics, California Department of Health Services, September 1998.

TABLE 1
DEATHS DUE TO CHRONIC LIVER DISEASE & CIRRHOSIS
BY SEX
CALIFORNIA, 1980-1997
(By Place of Residence)

SEX	EVENT YEAR	DEATHS	POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS LOWER	UPPER
TOTAL							
	1997	3,502	32,956,588	10.6	9.2	8.9	9.5
	1996	3,501	32,383,811	10.8	9.4	9.1	9.8
	1995	3,575	32,062,912	11.1	9.9	9.5	10.2
	1994	3,630	31,790,557	11.4	10.3	9.9	10.6
	1993	3,681	31,515,753	11.7	10.6	10.2	10.9
	1992	3,737	31,186,559	12.0	11.1	10.7	11.4
	1991	3,728	30,563,276	12.2	11.3	10.9	11.7
	1990	3,890	29,942,397	13.0	12.1	11.7	12.5
	1989	4,000	29,142,106	13.7	12.9	12.5	13.4
	1988	4,186	28,393,094	14.7	14.0	13.6	14.5
	1987	3,920	27,716,860	14.1	13.5	13.0	13.9
	1986	3,968	27,052,291	14.7	13.9	13.5	14.4
	1985	3,965	26,402,633	15.0	14.2	13.8	14.7
	1984	4,131	25,816,294	16.0	15.2	14.7	15.7
	1983	4,027	25,336,301	15.9	15.1	14.6	15.6
	1982	4,143	24,805,011	16.7	15.8	15.3	16.3
	1981	4,212	24,277,674	17.3	16.4	15.9	16.9
	1980	4,477	23,780,068	18.8	17.7	17.2	18.2
MALE							
	1997	2,304	16,526,191	13.9	12.9	12.3	13.4
	1996	2,324	16,227,924	14.3	13.3	12.8	13.9
	1995	2,372	16,062,552	14.8	14.0	13.4	14.5
	1994	2,451	15,921,009	15.4	14.8	14.2	15.4
	1993	2,436	15,782,166	15.4	14.9	14.3	15.5
	1992	2,517	15,616,376	16.1	15.9	15.2	16.5
	1991	2,424	15,301,183	15.8	15.7	15.1	16.4
	1990	2,613	14,989,516	17.4	17.4	16.7	18.1
	1989	2,690	14,573,988	18.5	18.6	17.9	19.3
	1988	2,795	14,181,700	19.7	20.0	19.3	20.8
	1987	2,666	13,825,118	19.3	19.6	18.8	20.4
	1986	2,576	13,474,197	19.1	19.4	18.6	20.1
	1985	2,558	13,130,674	19.5	19.8	19.0	20.6
	1984	2,723	12,818,768	21.2	21.5	20.7	22.3
	1983	2,657	12,559,834	21.2	21.2	20.4	22.1
	1982	2,677	12,275,613	21.8	21.9	21.1	22.8
	1981	2,750	11,993,514	22.9	22.9	22.0	23.7
	1980	2,909	11,722,769	24.8	24.5	23.6	25.4
FEMALE							
	1997	1,198	16,430,397	7.3	5.8	5.4	6.1
	1996	1,177	16,155,887	7.3	5.8	5.4	6.1
	1995	1,203	16,000,360	7.5	6.1	5.7	6.4
	1994	1,179	15,869,548	7.4	6.1	5.8	6.5
	1993	1,245	15,773,587	7.9	6.5	6.2	6.9
	1992	1,220	15,570,183	7.8	6.6	6.2	7.0
	1991	1,304	15,262,093	8.5	7.2	6.7	7.6
	1990	1,277	14,952,881	8.5	7.2	6.8	7.6
	1989	1,310	14,568,118	9.0	7.7	7.3	8.2
	1988	1,391	14,211,394	9.8	8.4	8.0	8.9
	1987	1,254	13,891,742	9.0	7.9	7.5	8.4
	1986	1,392	13,578,094	10.3	8.9	8.4	9.4
	1985	1,407	13,271,959	10.6	9.1	8.6	9.6
	1984	1,408	12,997,526	10.8	9.5	9.0	10.0
	1983	1,370	12,776,467	10.7	9.5	9.0	10.1
	1982	1,466	12,529,398	11.7	10.3	9.7	10.8
	1981	1,462	12,284,160	11.9	10.6	10.0	11.2
	1980	1,568	12,057,299	13.0	11.6	11.0	12.2

Note : Rates are per 100,000 population; ICD-9 Code 571.

Source : State of California, Department of Finance, Race/Ethnic Population Estimates by Counties with Age and Sex Detail, Estimated July 1, 1970-1996 and Projections for 1997. December 1998.
State of California, Department of Health Services, Death Records.

TABLE 2
DEATHS DUE TO CHRONIC LIVER DISEASE & CIRRHOSIS
BY RACE/ETHNICITY
CALIFORNIA. 1985-1997
(By Place of Residence)

RACE / ETHNICITY	EVENT YEAR	DEATHS	POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS LOWER	UPPER
ASIAN/OTHER							
	1997	153	3,778,911	4.0	3.7	3.1	4.3
	1996	163	3,645,998	4.5	4.1	3.4	4.7
	1995	152	3,530,931	4.3	4.1	3.4	4.7
	1994	163	3,429,125	4.8	4.5	3.8	5.2
	1993	153	3,323,013	4.6	4.5	3.8	5.2
	1992	170	3,209,399	5.3	5.3	4.5	6.1
	1991	141	3,068,424	4.6	4.6	3.8	5.4
	1990	134	2,930,570	4.6	4.8	4.0	5.6
	1989	155	2,774,167	5.6	5.9	5.0	6.8
	1988	159	2,616,586	6.1	6.6	5.6	7.7
	1987	122	2,465,134	4.9	5.5	4.5	6.4
	1986	127	2,313,141	5.5	6.1	5.0	7.1
	1985	120	2,158,886	5.6	6.2	5.1	7.3
BLACK							
	1997	213	2,298,425	9.3	9.5	8.2	10.8
	1996	222	2,275,401	9.8	10.3	8.9	11.7
	1995	218	2,250,502	9.7	10.4	9.0	11.8
	1994	238	2,232,841	10.7	11.4	10.0	12.9
	1993	250	2,214,376	11.3	12.2	10.6	13.7
	1992	274	2,192,451	12.5	13.8	12.1	15.5
	1991	284	2,147,691	13.2	14.6	12.9	16.3
	1990	317	2,105,207	15.1	16.5	14.6	18.3
	1989	313	2,061,823	15.2	17.2	15.3	19.1
	1988	327	2,024,779	16.1	18.4	16.4	20.4
	1987	351	1,992,361	17.6	20.1	17.9	22.2
	1986	339	1,958,844	17.3	20.0	17.9	22.2
	1985	371	1,923,209	19.3	22.4	20.1	24.7
HISPANIC							
	1997	944	9,700,944	9.7	13.5	12.6	14.4
	1996	954	9,330,740	10.2	14.3	13.3	15.2
	1995	916	9,100,994	10.1	14.4	13.5	15.4
	1994	930	8,882,966	10.5	15.6	14.5	16.6
	1993	897	8,658,118	10.4	15.6	14.6	16.6
	1992	871	8,421,133	10.3	16.0	14.9	17.1
	1991	842	8,097,870	10.4	16.0	14.9	17.1
	1990	817	7,774,789	10.5	16.1	15.0	17.2
	1989	840	7,419,574	11.3	17.8	16.5	19.0
	1988	845	7,077,579	11.9	18.8	17.5	20.1
	1987	746	6,754,398	11.0	17.7	16.4	19.0
	1986	700	6,428,436	10.9	17.2	15.9	18.5
	1985	665	6,103,662	10.9	17.2	15.9	18.5
WHITE							
	1997	2,192	17,178,308	12.8	8.9	8.5	9.3
	1996	2,162	17,131,672	12.6	8.9	8.5	9.3
	1995	2,289	17,180,485	13.3	9.6	9.2	10.0
	1994	2,299	17,245,625	13.3	9.8	9.4	10.2
	1993	2,381	17,320,246	13.7	10.1	9.7	10.5
	1992	2,422	17,363,576	13.9	10.5	10.1	11.0
	1991	2,461	17,249,291	14.3	10.8	10.3	11.2
	1990	2,622	17,131,831	15.3	11.8	11.3	12.2
	1989	2,692	16,886,542	15.9	12.4	11.9	12.9
	1988	2,855	16,674,150	17.1	13.4	12.9	13.9
	1987	2,701	16,504,967	16.4	13.0	12.4	13.5
	1986	2,802	16,351,870	17.1	13.5	12.9	14.0
	1985	2,809	16,216,876	17.3	13.6	13.1	14.1

Note : Rates are per 100,000 population; ICD-9 Code 571.
White, Black, and Asian/Other, exclude Hispanic ethnicity. Hispanic includes any race category.

Source : State of California, Department of Finance, Race/Ethnic Population Estimates by Counties with Age and Sex Detail, Estimated July 1, 1970-1996 and Projections for 1997. December 1998.

State of California
Department of Health Services

Center for Health Statistics
June 1999

TABLE 3
DEATHS DUE TO CHRONIC LIVER DISEASE & CIRRHOSIS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 1997
(By Place of Residence)

RACE/ ETHNICITY	AGE GROUPS	1997 DEATHS			POPULATION			AGE-SPECIFIC DEATH RATE			95% CONFIDENCE LIMITS					
								TOTAL	MALE	FEMALE	TOTAL		MALE		FEMALE	
		TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE				LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL																
	Under 1	2	1	1	546,131	279,304	266,827	0.4 ^	0.4 ^	0.4 ^	0.0	0.9	0.0	1.1	0.0	1.1
	1 to 4	0	0	0	2,249,298	1,150,795	1,098,503	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	5 to 14	0	0	0	5,126,179	2,623,010	2,503,168	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	15 to 24	4	2	2	4,286,123	2,230,566	2,055,557	0.1 ^	0.1 ^	0.1 ^	0.0	0.2	0.0	0.2	0.0	0.2
	25 to 34	94	70	24	5,295,602	2,801,396	2,494,206	1.8	2.5	1.0	1.4	2.1	1.9	3.1	0.6	1.3
	35 to 44	566	398	168	5,515,973	2,804,567	2,711,406	10.3	14.2	6.2	9.4	11.1	12.8	15.6	5.3	7.1
	45 to 54	831	593	238	3,967,625	1,968,640	1,998,985	20.9	30.1	11.9	19.5	22.4	27.7	32.5	10.4	13.4
	55 to 64	762	532	230	2,429,264	1,181,279	1,247,985	31.4	45.0	18.4	29.1	33.6	41.2	48.9	16.0	20.8
	65 to 74	730	437	293	1,946,517	880,656	1,065,861	37.5	49.6	27.5	34.8	40.2	45.0	54.3	24.3	30.6
	75 to 84	425	228	197	1,202,900	485,972	716,928	35.3	46.9	27.5	32.0	38.7	40.8	53.0	23.6	31.3
	85 & Older	87	42	45	390,977	120,006	270,971	22.3	35.0	16.6	17.6	26.9	24.4	45.6	11.8	21.5
	Unknown	1	1	0												
	Total	3,502	2,304	1,198	32,956,588	16,526,191	16,430,397	10.6	13.9	7.3	10.3	11.0	13.3	14.5	6.9	7.7
ASIAN/OTHER																
	Under 1	1	1	0	61,048	31,238	29,810	1.6 ^	3.2 ^	0.0 +	0.0	4.8	0.0	9.5	-	-
	1 to 4	0	0	0	253,970	130,697	123,273	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	5 to 14	0	0	0	590,572	302,505	288,067	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	15 to 24	1	0	1	547,654	281,371	266,283	0.2 ^	0.0 +	0.4 ^	0.0	0.5	-	-	0.0	1.1
	25 to 34	6	5	1	611,613	308,552	303,061	1.0 ^	1.6 ^	0.3 ^	0.2	1.8	0.2	3.0	0.0	1.0
	35 to 44	23	15	8	650,006	312,746	337,260	3.5	4.8 ^	2.4 ^	2.1	5.0	2.4	7.2	0.7	4.0
	45 to 54	35	26	9	466,296	221,016	245,280	7.5	11.8	3.7 ^	5.0	10.0	7.2	16.3	1.3	6.1
	55 to 64	28	21	7	270,313	127,549	142,764	10.4	16.5	4.9 ^	6.5	14.2	9.4	23.5	1.3	8.5
	65 to 74	37	17	20	196,736	85,009	110,727	18.9	20.0 ^	18.1	12.8	25.0	10.5	29.5	10.1	26.0
	75 to 84	19	10	9	101,250	43,392	57,858	18.8	23.0 ^	15.6 ^	10.3	27.2	8.8	37.3	5.4	25.7
	85 & Older	3	2	1	30,453	13,032	17,421	9.9 ^	15.3 ^	5.7 ^	0.0	21.0	0.0	36.6	0.0	17.0
	Unknown	0	0	0												
	Total	153	97	56	3,778,911	1,857,107	1,921,804	4.0	5.2	2.9	3.4	4.7	4.2	6.2	2.1	3.7
BLACK																
	Under 1	0	0	0	37,118	18,999	18,119	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	1 to 4	0	0	0	161,406	81,910	79,496	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	5 to 14	0	0	0	399,123	202,091	197,032	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	15 to 24	1	0	1	346,981	183,464	163,517	0.3 ^	0.0 +	0.6 ^	0.0	0.9	-	-	0.0	1.8
	25 to 34	4	2	2	386,835	200,505	186,330	1.0 ^	1.0 ^	1.1 ^	0.0	2.0	0.0	2.4	0.0	2.6
	35 to 44	42	22	20	379,215	184,086	195,129	11.1	12.0	10.2	7.7	14.4	7.0	16.9	5.8	14.7
	45 to 54	73	48	25	253,810	119,474	134,336	28.8	40.2	18.6	22.2	35.4	28.8	51.5	11.3	25.9
	55 to 64	50	40	10	156,691	73,379	83,312	31.9	54.5	12.0 ^	23.1	40.8	37.6	71.4	4.6	19.4
	65 to 74	29	18	11	103,210	44,398	58,812	28.1	40.5 ^	18.7 ^	17.9	38.3	21.8	59.3	7.7	29.8
	75 to 84	13	6	7	56,622	21,083	35,539	23.0 ^	28.5 ^	19.7 ^	10.5	35.4	5.7	51.2	5.1	34.3
	85 & Older	1	0	1	17,414	5,183	12,231	5.7 ^	0.0 +	8.2 ^	0.0	17.0	-	-	0.0	24.2
	Unknown	0	0	0												
	Total	213	136	77	2,298,425	1,134,572	1,163,853	9.3	12.0	6.6	8.0	10.5	10.0	14.0	5.1	8.1
HISPANIC																
	Under 1	1	0	1	259,482	132,657	126,825	0.4 ^	0.0 +	0.8 ^	0.0	1.1	-	-	0.0	2.3
	1 to 4	0	0	0	1,033,436	526,924	506,512	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	5 to 14	0	0	0	1,950,967	995,128	956,839	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	15 to 24	1	1	0	1,474,904	766,061	708,843	0.1 ^	0.1 ^	0.0 +	0.0	0.2	0.0	0.4	-	-
	25 to 34	37	33	4	1,830,949	1,027,720	803,229	2.0	3.2	0.5 ^	1.4	2.7	2.1	4.3	0.0	1.0
	35 to 44	199	158	41	1,440,680	760,047	680,633	13.8	20.8	6.0	11.9	15.7	17.5	24.0	4.2	7.9
	45 to 54	232	182	50	799,904	403,910	395,994	29.0	45.1	12.6	25.3	32.7	38.5	51.6	9.1	16.1
	55 to 64	219	167	52	434,968	210,015	224,953	50.3	79.5	23.1	43.7	57.0	67.5	91.6	16.8	29.4
	65 to 74	162	99	63	292,243	132,556	159,687	55.4	74.7	39.5	46.9	64.0	60.0	89.4	29.7	49.2
	75 to 84	75	39	36	133,418	53,617	79,801	56.2	72.7	45.1	43.5	68.9	49.9	95.6	30.4	59.8
	85 & Older	17	7	10	49,993	17,533	32,460	34.0 ^	39.9 ^	30.8 ^	17.8	50.2	10.3	69.5	11.7	49.9
	Unknown	1	1	0												
	Total	944	687	257	9,700,944	5,026,168	4,674,776	9.7	13.7	5.5	9.1	10.4	12.7	14.7	4.8	6.2
WHITE																
	Under 1	0	0	0	188,483	96,410	92,073	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	1 to 4	0	0	0	800,486	411,264	389,222	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	5 to 14	0	0	0	2,185,516	1,123,286	1,062,230	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
	15 to 24	1	1	0	1,916,584	999,670	916,914	0.1 ^	0.1 ^	0.0 +	0.0	0.2	0.0	0.3	-	-
	25 to 34	47	30	17	2,466,205	1,264,619	1,201,586	1.9	2.4	1.4 ^	1.4	2.5	1.5	3.2	0.7	2.1
	35 to 44	302	203	99	3,046,072	1,547,688	1,498,384	9.9	13.1	6.6	8.8	11.0	11.3	14.9	5.3	7.9
	45 to 54	491	337	154	2,447,615	1,224,240	1,223,375	20.1	27.5	12.6	18.3	21.8	24.6	30.5	10.6	14.6
	55 to 64	465	304	161	1,567,292	770,336	796,956	29.7	39.5	20.2	27.0	32.4	35.0	43.9	17.1	23.3
	65 to 74	502	303	199	1,355,328	618,693	736,635	37.0	49.0	27.0	33.8	40.3	43.5	54.5	23.3	30.8
	75 to 84	318	173	145	911,610	367,880	543,730	34.9	47.0	26.7	31.0	38.7	40.0	54.0	22.3	31.0
	85 & Older	66	33	33	293,117	84,258	208,859	22.5	39.2	15.8	17.1	27.9	25.8	52.5	10.4	21.2
	Unknown	0	0	0												
	Total	2,192	1,384	808	17,178,308	8,508,344	8,669,964	12.8	16.3	9.3	12.2	13.3	15.4	17.2	8.7	9.9

Note : Rates are per 100,000 population; ICD-9 Code 571.
White, Black, and Asian/Other, exclude Hispanic ethnicity. Hispanic includes any race category.

^ Death rate unreliable, (relative standard error is > = 23%).
\+ Standard error indeterminate, death rate based on no (zero) deaths.
\- The 95% confidence limits are not calucalated for zero events.

Source: State of California Department of Finance, Race/Ethnic Population Estimates by County with Age and Sex Detail 1970-1996, and Projections for 1997. December 1998.
State of California, Department of Health Services, Death Records.

TABLE 4
DEATHS DUE TO CHRONIC LIVER DISEASE & CIRRHOSIS
BY COUNTY
CALIFORNIA, 1995-1997
(By Place of Residence)

COUNTY	1995-1997 DEATHS (Average)	PERCENT		1996 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS LOWER	UPPER
CALIFORNIA	3,526.0	100.0		32,383,811	10.9	9.5	9.2	9.8
ALAMEDA	153.7	4.4		1,365,041	11.3	9.3	7.8	10.8
ALPINE	0.7	0.0	a	1,194	55.8 *	44.3 *	0.0	150.8
AMADOR	5.3	0.2		32,925	16.2 *	10.9 *	1.3	20.6
BUTTE	29.3	0.8		196,522	14.9	11.4	6.9	15.8
CALAVERAS	6.3	0.2		36,881	17.2 *	11.6 *	2.1	21.0
COLUSA	1.3	0.0	a	18,197	7.3 *	6.9 *	0.0	18.8
CONTRA COSTA	93.0	2.6		877,965	10.6	8.0	6.3	9.7
DEL NORTE	5.3	0.2		27,527	19.4 *	16.9 *	2.0	31.7
EL DORADO	14.7	0.4		144,710	10.1 *	7.6 *	3.5	11.7
FRESNO	79.0	2.2		769,709	10.3	10.0	7.7	12.2
GLENN	2.7	0.1		26,699	10.0 *	9.7 *	0.0	21.8
HUMBOLDT	14.3	0.4		125,100	11.5 *	9.4 *	4.4	14.4
IMPERIAL	21.7	0.6		141,229	15.3	15.3	8.6	22.0
INYO	4.0	0.1		18,225	21.9 *	14.8 *	0.0	30.1
KERN	75.7	2.1		624,092	12.1	11.5	8.9	14.2
KINGS	14.3	0.4		115,774	12.4 *	13.9 *	6.5	21.2
LAKE	15.3	0.4		54,884	27.9 *	20.1 *	9.2	31.0
LASSEN	3.3	0.1		32,631	10.2 *	8.9 *	0.0	18.8
LOS ANGELES	1,035.0	29.4		9,396,389	11.0	10.1	9.5	10.8
MADERA	13.3	0.4		110,298	12.1 *	10.6 *	4.7	16.6
MARIN	32.3	0.9		239,630	13.5	9.8	6.2	13.3
MARIPOSA	1.7	0.0		15,965	10.4 *	6.1 *	0.0	16.1
MENDOCINO	15.7	0.4		84,817	18.5 *	14.1 *	6.8	21.3
MERCED	20.7	0.6		198,390	10.4	9.6 *	5.3	14.0
MODOC	3.3	0.1		10,028	33.2 *	27.8 *	0.0	58.4
MONO	1.0	0.0	a	10,565	9.5 *	9.5 *	0.0	28.4
MONTEREY	36.0	1.0		360,253	10.0	9.2	6.1	12.2
NAPA	18.0	0.5		118,949	15.1 *	10.8 *	5.5	16.2
NEVADA	10.3	0.3		87,001	11.9 *	6.9 *	2.0	11.8
ORANGE	248.3	7.0		2,649,846	9.4	8.2	7.2	9.3
PLACER	22.7	0.6		209,167	10.8	7.9	4.5	11.3
PLUMAS	5.3	0.2		20,239	26.4 *	16.4 *	1.5	31.2
RIVERSIDE	170.3	4.8		1,393,289	12.2	10.5	8.9	12.2
SACRAMENTO	114.0	3.2		1,132,189	10.1	8.6	7.0	10.2
SAN BENITO	2.0	0.1		44,008	4.5 *	2.9 *	0.0	7.3
SAN BERNARDINO	176.0	5.0		1,592,711	11.1	11.0	9.3	12.6
SAN DIEGO	244.3	6.9		2,694,956	9.1	8.3	7.2	9.4
SAN FRANCISCO	95.3	2.7		768,263	12.4	9.3	7.4	11.3
SAN JOAQUIN	56.3	1.6		533,177	10.6	9.7	7.1	12.3
SAN LUIS OBISPO	25.3	0.7		230,691	11.0	9.2	5.3	13.0
SAN MATEO	87.7	2.5		698,042	12.6	9.2	7.2	11.1
SANTA BARBARA	43.3	1.2		393,716	11.0	9.4	6.5	12.3
SANTA CLARA	169.3	4.8		1,638,352	10.3	8.8	7.5	10.2
SANTA CRUZ	28.0	0.8		243,657	11.5	9.7	6.0	13.4
SHASTA	19.7	0.6		161,688	12.2	9.3 *	5.0	13.5
SIERRA	0.0	0.0		3,401	0.0 +	0.0 +	-	-
SISKIYOU	6.3	0.2		43,945	14.4 *	11.0 *	1.7	20.3
SOLANO	40.7	1.2		372,493	10.9	10.0	6.9	13.1
SONOMA	44.7	1.3		424,481	10.5	8.1	5.6	10.6
STANISLAUS	41.7	1.2		418,455	10.0	9.2	6.3	12.1
SUTTER	5.3	0.2		74,591	7.2 *	5.3 *	0.7	10.0
TEHAMA	6.7	0.2		54,353	12.3 *	9.9 *	1.8	18.1
TRINITY	4.0	0.1		13,328	30.0 *	21.4 *	0.0	43.0
TULARE	50.0	1.4		353,645	14.1	13.3	9.5	17.2
TUOLUMNE	8.0	0.2		51,583	15.5 *	10.7 *	2.6	18.9
VENTURA	57.0	1.6		714,845	8.0	6.5	4.8	8.2
YOLO	20.7	0.6		152,535	13.5	14.1	7.9	20.2
YUBA	5.7	0.2		60,575	9.4 *	9.0 *	1.3	16.7

Note : Rates are per 100,000 population; ICD-9 Code 571.

* Death rate is unreliable (relative standard error is > = 23%).

a Represents a percentage of more than zero but less than 0.05.

\+ Standard error indeterminate, death rate based on no (zero) deaths.

\- The 95% confidence limits are not calculated for zero events.

Source : State of California, Department of Finance, Race/Ethnic Population Estimates by County with Age and Sex Detail 1970-1996, January 1998.
State of California, Department of Health Services, Death Records.